LISTING OF THE CLAIMS

1. (Previously presented) An image sensor pixel comprising:

a semiconductor substrate;

a photoconversion device formed within said semiconductor substrate;

a dielectric layer formed over said photoconversion device; and

a mesh optical filter positioned over said dielectric layer and photoconversion device for passing light of a specific wavelength to said photoconversion device.

2. (previously presented) The image sensor pixel of claim 1, wherein said mesh optical filter comprises apertures that are sized to pass light of said specific wavelength to said photoconversion device.

3. (Original) The image sensor pixel of claim 1, wherein the image sensor is a CMOS image sensor.

4. (Original) The image sensor pixel of claim 1, wherein the image sensor is a CCD image sensor.

5. (Previously presented) The image sensor pixel of claim 1, wherein said mesh optical filter is formed from a metal layer deposited and patterned to interconnect image sensor circuitry.

6. (Original) The image sensor pixel of claim 5, wherein said metal layer has a thickness of about 70 nm to about 150 nm.

7. (Original) The image sensor pixel of claim 5, wherein said metal layer has a thickness of about 100 nm.

8. (Original) The image sensor pixel of claim 5, wherein said metal layer is formed of a material comprising at least one of aluminum, silver, copper, and gold.

9. (Original) The image sensor pixel of claim 2, wherein said apertures are circular.

10. (Original) The image sensor pixel of claim 2, wherein said apertures are rectangular.

11. (Original) The image sensor pixel of claim 2, wherein said apertures are triangular.

12. (Original) The image sensor pixel of claim 2, wherein said apertures pass visible light to said photoconversion device.

13. (Original) The image sensor pixel of claim 2, wherein said apertures have a size of about 400 nm to about 700 nm.

14. (Original) The image sensor pixel of claim 13, wherein said apertures have a size of about 475 nm.

15. (Original) The image sensor pixel of claim 13, wherein said apertures have a size of about 525 nm.

16. (Original) The image sensor pixel of claim 13, wherein said apertures have a size of about 650 nm.

17. (Original) The image sensor pixel of claim 2, wherein said apertures pass non-visible light to said photoconversion device.

18. (Original) The image sensor pixel of claim 17, wherein said apertures pass infrared light to said photoconversion device.

19. (Original) The image sensor pixel of claim 17, wherein said apertures pass near-infrared light to said photoconversion device.

20. (Previously presented) The image sensor pixel of claim 1, wherein said mesh optical filter is made of metal.

21. (Previously presented) An image sensor pixel comprising:

a semiconductor substrate;

a photoconversion device formed within said semiconductor substrate;

a dielectric layer formed over said photoconversion device;

a first mesh optical filter positioned over said dielectric layer and photoconversion device for passing light of a specific wavelength to said photoconversion device; and

at least one additional mesh optical filter positioned over said first mesh optical filter for passing light of a specific wavelength to said photoconversion device.

22. (Previously presented) The image sensor pixel of claim 21, wherein each said mesh optical filter comprises a plurality of apertures that are sized to pass light of a specific wavelength.

23. (Previously presented) The image sensor pixel of claim 22 wherein each said mesh optical filter is formed from a corresponding metal layer deposited and patterned to interconnect image sensor circuitry.

24. (Original) The image sensor pixel of claim 23 wherein each said corresponding metal layer has a thickness of about 70 nm to about 150 nm.

25. (Original) The image sensor of claim 23 wherein each said corresponding metal layer is formed of a material comprising at least one of aluminum, silver, copper, and gold.

26. (Previously presented) An image sensor comprising:

an array of pixels, each pixel comprising a photoconversion device and a dielectric layer formed over said photoconversion device; and

a plurality of metal mesh optical filters respectively formed over said pixels, each metal mesh optical filter passing light of one of three colors to a respective photoconversion device.

27. (Previously presented) The image sensor of claim 26, wherein each metal mesh optical filter passes one of red, blue, and green light.

28. (Previously presented) The image sensor of claim 26, wherein each metal mesh optical filter passes one of cyan, magenta, and yellow light.

29. (Previously presented) The image sensor of claim 26, wherein said metal mesh optical filters are arranged in a Bayer pattern.

30. (Previously presented) The image sensor of claim 26, wherein each metal mesh optical filter is formed of a material comprising at least one of aluminum, silver, copper, and gold.

31. (Previously presented) The image sensor of claim 26, wherein said metal mesh optical filters are formed from a metal layer deposited and patterned to interconnect imager circuitry.

32. (Original) The image sensor of claim 31, wherein said metal layer has a thickness of about 70 nm to about 150 nm.

33. (Original) The image sensor of claim 31, wherein said metal layer has a thickness of about 100 nm.

34. (Previously presented) The imager sensor of claim 26, wherein each metal mesh optical filter is formed from a metal layer deposited and patterned to provide said metal mesh optical filter.

35. (Original) The image sensor of claim 26, wherein the image sensor is a CMOS image sensor.

36. (Original) The image sensor of claim 26, wherein the image sensor is a CCD image sensor.

37. (Previously presented) The image sensor of claim 26, wherein said metal mesh optical filters comprise apertures which pass light of a specific wavelength to said photoconversion devices.

38. (Original) The image sensor of claim 37, wherein said apertures are circular.

39. (Original) The image sensor of claim 37, wherein said apertures are rectangular.

40. (Original) The image sensor of claim 37, wherein said apertures are triangular.

41. (Original) The image sensor of claim 37, wherein said apertures have a size of about 400 nm to about 700 nm.

42. (Original) The image sensor of claim 41, wherein said apertures have a size of about 475 nm.

43. (Original) The image sensor of claim 41, wherein said apertures have a size of about 525 nm.

44. (Original) The image sensor of claim 41, wherein said apertures have a size of about 650 nm.

45. (Previously presented) An image sensor system comprising:

an array of pixels, each pixel comprising a photoconversion device and a dielectric layer formed over said photoconversion device; and

a plurality of metal mesh optical filters formed over said pixels, each metal mesh optical filter passing light of one of a plurality of colors to a respective photoconversion device.

46. (Previously presented) The image sensor system of claim 45, wherein each metal mesh optical filter passes one of red, blue, and green light.

47. (Previously presented) The image sensor system of claim 45, wherein each metal mesh optical filter passes one of cyan, magenta, and yellow light.

48. (Previously presented) The image sensor system of claim 45, wherein said metal mesh optical filters are arranged in a Bayer pattern.

49. (Previously presented) The image sensor system of claim 45, wherein each metal mesh optical filter is formed of a material comprising at least one of aluminum, silver, copper, and gold.

50. (Previously presented) The image sensor system of claim 45, wherein said metal mesh optical filters are formed from a metal layer deposited and patterned to interconnect imager circuitry.

51. (Original) The image sensor system of claim 50, wherein said metal layer has a thickness of about 70 nm to about 150 nm.

52. (Original) The image sensor system of claim 50, wherein said metal layer has a thickness of about 100 nm.

53. (Previously presented) The image sensor system of claim 45, wherein each metal mesh optical filter is formed from a metal layer deposited and patterned to provide said metal mesh optical filter.

54. (Original) The image sensor system of claim 45, wherein the image sensor is a CMOS image sensor.

55. (Original) The image sensor system of claim 45, wherein the image sensor is a CCD image sensor.

56. (Previously presented) The image sensor system of claim 45, wherein said metal mesh optical filters comprise apertures which pass light of a specific wavelength to said photoconversion devices.

57. (Original) The image sensor system of claim 56, wherein said apertures are circular.

58. (Original) The image sensor system of claim 56, wherein said apertures are rectangular.

59. (Original) The image sensor system of claim 56, wherein said apertures are triangular.

60. (Original) The image sensor system of claim 56, wherein said apertures have a size of about 400 nm to about 700 nm.

61. (Original) The image sensor system of claim 60, wherein said apertures have a size of about 475 nm.

62. (Original) The image sensor system of claim 60, wherein said apertures have a size of about 525 nm.

63. (Original) The image sensor system of claim 60, wherein said apertures have a size of about 650 nm.

64. (Previously presented) A method of forming an image sensor pixel cell comprising the steps of:

forming a photoconversion device within a semiconductor substrate;

forming a dielectric layer over said photoconversion device; and

forming a mesh optical filter over said dielectric layer and photoconversion device for passing light of a specific wavelength to said photoconversion device.

65. (Previously presented) The method of claim 64, wherein said mesh optical filter comprises apertures that are sized to pass light of a specific wavelength to said photoconversion device.

66. (Previously presented) The method of claim 64 further comprising the step of forming at least one metal layer over said substrate, wherein said mesh optical filter is formed as part of said metal layer.

67. (Original) The method of claim 66, wherein said metal layer is formed to a thickness of about 70 nm to about 150 nm.

68. (Original) The method of claim 66, wherein said metal layer is formed to a thickness of about 100 nm.

69. (Original) The method of claim 64, wherein said metal layer is formed of a material comprising at least one of aluminum, silver, copper, and gold.

70. (Original) The method of claim 64, wherein said apertures are circular.

71. (Original) The method of claim 64, wherein said apertures are rectangular.

72. (Original) The method of claim 64, wherein said apertures are triangular.

73. (Original) The method of claim 64, wherein said apertures pass visible light to said photoconversion device.

74. (Original) The method of claim 64, wherein said apertures are formed to a size of about 400 nm to about 700 nm.

75. (Original) The method of claim 74, wherein said apertures are formed to a size of about 475 nm.

76. (Original) The method of claim 74, wherein said apertures are formed to a size of about 525 nm.

77. (Original) The method of claim 74, wherein said apertures are formed to a size of about 650 nm.

78. (Previously presented) A method of forming an image sensor comprising the steps of:

forming an array of pixels, each pixel comprising a photoconversion device and a dielectric layer formed over said photoconversion device; and

forming a plurality of metal mesh optical filters over said pixels, each metal mesh optical filter passing light of one of three colors to a respective photoconversion device.

79. (Previously presented) The method of claim 78, wherein said metal mesh optical filters each pass one of red, blue, and green light.

80. (Previously presented) The method of claim 78, wherein said metal mesh optical filters each pass one of cyan, magenta, and yellow light.

81. (Previously presented) The method of claim 78, wherein said metal mesh optical filters are arranged in a Bayer pattern.

82. (Previously Presented) An image sensor pixel comprising:

a semiconductor substrate;

a photoconversion device formed within said semiconductor substrate;

a dielectric layer formed over said photoconversion device; and

an apertured optical filter positioned over said dielectric layer and photoconversion device for passing light of a specific wavelength to said photoconversion device.

83. (Previously Presented) The image sensor pixel of claim 82, wherein said optical filters comprises a plurality of apertures sized to pass light of a specific wavelength to said photoconversion device.

84. (Previously Presented) The image sensor pixel of claim 82, wherein said apertured optical filter is formed from a metal layer deposited and patterned to interconnect image sensor circuitry.

85. (Previously presented) The image sensor pixel of claim 82, wherein said metal layer has a thickness of about 70 nm to about 150 nm.

86. (Previously presented) The image sensor pixel of claim 82, wherein said metal layer has a thickness of about 100 nm.

87. (Previously presented) The image sensor pixel of claim 83, wherein said apertures are circular.

88. (Previously presented) The image sensor pixel of claim 83, wherein said apertures are rectangular.

89. (Previously presented) The image sensor pixel of claim 83, wherein said apertures are triangular.

90. (Previously presented) An image sensor pixel comprising:

a semiconductor substrate;

a photoconversion device formed within said semiconductor substrate;

a dielectric layer formed over said photoconversion device;

a first optical filter comprising a plurality of apertures, said first optical filter being positioned over said dielectric layer and photoconversion device for passing light of a first specific wavelength to said photoconversion device; and

at least one additional optical filter comprising a plurality of apertures, said at least one optical filter being positioned over said first optical filter for passing light of a second specific wavelength to said photoconversion device, said first and second wavelengths being different.

91. (Previously presented) The image sensor pixel of claim 90 wherein each said first optical filter is formed from a corresponding metal layer deposited and patterned to interconnect image sensor circuitry.

92. (Previously presented) The image sensor pixel of claim 91 wherein each said corresponding metal layer has a thickness of about 70 nm to about 150 nm.

93. (Previously presented) The image sensor of claim 91 wherein each said corresponding metal layer is formed of a material comprising at least one of aluminum, silver, copper, and gold.